Reviewer Instructions for the Resource Management Strategies.

Thank you for taking the time to review the Resource Management Strategies; your thoughts and effort will improve the California Water Plan Update 2013. This March, these Resource Management Strategies are being circulated primarily amongst the active participants in the Water Plan process, our standing committees and caucuses. When your feedback is incorporated, the RMS will be re-released to the broad public.

Given the short feedback period, and our plans for additional feedback later, we ask that you focus your reviews this round. We welcome feedback with an emphasis on:

- Please do not comment on grammar or formatting; these versions will receive more editing later this year;
- Please point out opportunities for updating the RMS. If you are aware of relevant new projects, legislation, or developments, it would be great to hear about those;
- Please also point out new technologies that are relevant to an RMS;
- Please make suggestions for simplifying the recommendations;
- If you have suggestions for metrics that could measure progress for an RMS, we would like to lay the groundwork to include those in the next Progress Report and the Water Plan Update 2018.

Submit your feedback to the California Water Plan email address: cwpcom@water.ca.gov by April 15^{tht}. They'll be given to our Subject Matter Experts to incorporate into their RMS. If you have any questions, please contact Megan Fidell at mfidell@water.ca.gov.

Chapter Details — Draft

Authors or volume leads, please provide context and input to the publications staff in the space below.	
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Chapter 24: Land Use Planning and Management

Land use planning and management cuts across many resource management strategies of the California Water Plan Update 2013 (see Box 24-1). More efficient and effective land use is linked to several resource management strategies including watershed, water use efficiency, flood management, and agricultural lands stewardship. Directing development away from agricultural lands permits multi-objective management of these agricultural lands for agricultural preservation, floodplain management, water quality, habitat, and sustainable development. In addition, planning for more compact and sustainable communities, both urban and rural, will assist in reducing reliance on the State's water supply, and result in more efficient use of our water resources. Important considerations of water issues and land use planning include not only the effects of the physical environment, but also the economic and social impacts of land use planning and development.

Stronger collaboration between land use planners and water managers can promote more efficient and effective land use patterns and greater integration of regional water management (IRWM), which can produce safer and more resilient communities. Integrating land use and water management consists of planning for the housing and economic development needs of a growing population, while providing for the efficient use of water, water quality, energy, and other resources. The way in which we use land—the type of land use, transportation, and level of use—has a direct relationship to water supply and quality, flood management, and other water issues. Likewise, the better integrated our water resources are, the more efficient local communities can be at producing land use planning benefits and opportunities. For example, compact development patterns in existing urban areas can limit the amount of development in floodplains, leading to improved flood management and safety and more efficient infrastructure.

Land use planners consider water throughout the local land use planning process, and water is a critical element in adopting efficient land use planning policies. The availability of water supplies; water resource features such as streams, wetlands, and groundwater recharge areas; and policies and regulations about water quality, drainage, and flooding are all considered for a community's land use vision. Planners should also consider the benefits of integrating water-related features for flood management, water supply, and water quality.

California's projected growth and urban development increases the pressure on natural resource conservation, and amplifies the need for a comprehensive land use decision-making process integrated with water management. This advisory resource management strategy describes the co-benefits of a working relationship between land use planning and water management by demonstrating how sustainable land use decisions, in both urban and rural areas, can improve water supply and quality, increase flood protection, conserve vital natural habitat, lead to more efficient energy use, and produce land use benefits from improved water management. Although many of these issues are discussed in greater detail in other resource management strategies, this section focuses on the impact that land use can have on them.

This resource management strategy is consistent with the State's planning goals and policies for more compact sustainable development established in Assembly Bill (AB) 857, Senate Bill (SB) 732 and SB 375; strategies developed by the California Air Resources Board (ARB) to achieve AB 32 greenhouse gas (GHG) reduction target; and regional blueprint planning being funded by

California Department of Transportation (Caltrans). The State of California has enacted policies and programs designed to meet the water management benefit potential of land use with the understanding that these policies are implemented regionally and locally.

State and Regional Planning Framework

Key State Agencies Affecting Local Land Use Planning

California State government has typically played a limited or indirect role in land use planning, leaving the lion's share of land use authority to local governments. California State Government generally prepares strategic and functional plans for issues such as air pollution, water quality, transportation, housing, and solid waste management to provide assistance on local department programs, decisions, and projects. Unlike most other resources subject to State oversight, and in some cases management, there is no State oversight agency for land use. However, the Governor's Office of Planning and Research (OPR) and the Strategic Growth Council (SGC) provide critical support to local and regional governments related to land use planning for rural and urban communities.

OPR

OPR is responsible for coordination of State functional plans, ensuring consistency with State policies. OPR, created by statute in 1970, is part of the Office of the Governor. OPR serves the Governor and his Cabinet as staff for long-range planning and research, and constitutes the comprehensive state planning agency (Government Code §65040). In addition, the Government and Public Resources Codes set forth multiple functions for OPR, including:

- Formulation of long-range land use goals and policies
- Conflict resolution among state agencies
- Coordination of federal grants for environmental goals
- Coordination of statewide environmental monitoring
- Coordination of research on growth and development
- Management of state planning grants, and encouragement of local and regional planning
- Creation and adoption of General Plan Guidelines
- Drafting of CEQA Guidelines (for adoption by the Secretary of Natural Resources)
- Creation of a State Environmental Goals and Policy Report (EGPR), every four years
- Operation of the State Clearinghouse for distribution and review of CEQA documents
- Coordination of environmental justice activities
- Coordination with US military for land use and other issues in the state

One of OPR's primary responsibilities is working with state agencies and departments, regional planning organizations, and local jurisdictions on topics relating to land use planning. OPR has developed numerous resources to assist local governments in managing land use related issues, including information related to infill, renewable energy, general plan guidelines, transportation, and more.

SGC

The SGC, established through SB 732 in 2008, is a cabinet level committee that is tasked with coordinating the activities of state agencies to:

- Improve air and water quality
- Protect natural resources and agriculture lands
- Increase the availability of affordable housing
- Promote public health
- Improve transportation
- Encourage greater infill and compact development
- Revitalize community and urban centers
- Assist state and local entities in the planning of sustainable communities and meeting AB 32 goals

The SGC is currently comprised of agency secretaries from Business Transportation and Housing, California Health and Human Services, California Environmental Protection Agency, and the California Natural Resources Agency, the Director of OPR, and a public member who is appointed by the Governor. The SGC adopted a <u>Strategic Plan</u> in 2012. Pursuant to SB 732, the Council is required to develop and manage three grant programs funded through Proposition 84:

- **Modeling Incentives**: This program supports Metropolitan Planning Organizations (MPOs) and Councils of Governments (COGs) in the development of regional transportation and land use modeling by supporting the data gathering and model development necessary to comply with SB 375 and promote the objectives of the SGC.
- **Sustainable Communities Planning**: Competitive grants to cities, counties, and designated regional agencies to promote sustainable community planning and natural resource conservation. The grant program supports development, adoption, and implementation of various planning elements.
- **Urban Greening**: This grant program provides funds to assist entities in developing a master urban greening plan that will ultimately result in projects to help the State meet its environmental goals and the creation of healthy communities. The plan must be consistent with the State's planning policies and any applicable general or regional plan. The plan must outline or layout projects that reduce greenhouse gas emissions and provide multiple benefits including, but not limited to, decreasing air and water pollution, reducing the consumption of natural resources and energy, increasing the reliability of local water supplies, or increasing adaptability to climate change.

Other Agencies

There are several additional state entities that affect local land use planning and regulation. These include:

- The California Coastal Commission regulates land use planning and development in the coastal zone, together with local agencies (cities and counties).
- The California Energy Commission has exclusive permitting authority for thermal power plants 50 megawatts (MW) or greater and serves as lead agency under CEQA for projects within its jurisdiction.

- The Climate Change, Land Use, and Infrastructure Working Group (CCLU-In) for the Climate Action Team works to coordinate state efforts at the interface of land use and climate change and to ensure that various planning efforts (water resources, housing and development, transportation, public health, etc.) address the linkages between mitigation measures and adaptation strategies. Potential climate change impacts to land use include urban climate and heat island effects, flooding, land use patterns and planning, significant adverse impacts to air quality, population, energy and water consumption, waste issues, and public health, vehicle use strategies, and traffic.
- The Department of Housing and Community Development (HCD) implements the State California Green Building Code (Cal Green), the first in the nation designed to lighten carbon footprints and lower energy and water consumption. Cal Green provides a framework for reducing energy consumption and increasing the state's sustainability through statewide building standards that reduce water use, improve air quality, conserve energy, reduce our carbon footprint and help mitigate the effects of global climate change. In addition, HCD completes the review of housing elements.

State Policies and Regulations Affecting Local Land Use Planning

State law requires that State policies, to the extent they support land use, be expressed through local General Plans and land use regulations. The State Planning and Zoning Laws establish a detailed process for local planning, but with limited exceptions, do not require local plans to achieve substantive State policies. The exceptions are the Housing Element requirements and flood management legislation (See section on Coordinating Land Use and Flood Management).

Also, state regulatory authority for air and water pollution is increasingly affecting land use decisions. The issue of storm water runoff has led to the creation of many watershed planning efforts that operate on a regional or sub-regional level and may be part of an IRWM planning effort (See Urban Runoff Management RMS). Efforts to control storm water runoff and nonpoint source pollution are likely to affect the design, character, and even the location of local urban development by encouraging "green" storm water solutions (wetlands restoration, use of pervious surfaces) rather than more traditional engineering approaches such as channelization. (See Box 24-3 for descriptions of other planning efforts).

Key Regional Agencies Affecting Local Land Use Planning

- Regional regulatory land use agencies include the San Francisco Bay Conservation and Development Commission, the Tahoe Regional Planning Agency, the Delta Protection Commission, and the Delta Stewardship Council.
- Regional Council of Governments (COGs) differ from region to region in organization and regional responsibilities, but in general COGs serve as Metropolitan Planning Organizations (MPOs) for federal transportation planning and funding purposes. COGs prepare regional growth plans to meet the regional housing needs allocation (RHNA) and transportation plans.
- Local Agency Formation Commissions (LAFCOs) are regional organizations with responsibilities relating to Municipal Services, including water infrastructure. According to the California Association of Local Agency Formation Commissions, "LAFCOs review

proposals for the formation of new local governmental agencies and for changes in the organization of existing agencies...Agency boundaries are often unrelated to one another and sometimes overlap at random, often leading to higher service costs to the taxpayer and general confusion regarding service area boundaries. LAFCO decisions strive to balance the competing needs in California for [the] conservation of natural resources" (CALAFCO).

Local Planning and Land Use Regulation

Cities and counties have the primary jurisdiction over land use planning and regulation in California. Their authority derives from their rights under the California constitution to regulate land use to protect the public health, safety, and welfare. The following areas highlight some of the intersections between State and local land use planning.

- General Plans: Several state statutes specifically authorize the preparation of local General Plans and specific plans, and regulation of land use through zoning and subdivision regulations. OPR publishes the General Plan Guidelines, which provides guidance to local governments regarding the inclusion of an optional Water Element, and other advisory guidance to assist local governments in land use planning and management.
- California Environmental Quality Act (CEQA): CEQA is an important tool for local land use planning and regulation. Though intended as an environmental full disclosure law for discretionary local government decisions, in practice CEQA is often the main forum for local governments to make project-level land use decisions and consider the potential impacts of those decisions. This includes a public comment process to address concerns. CEQA also expressly states that feasible mitigation measures must be adopted for any significant environmental effects resulting from a project. Tribal Planning: State planning law, known as SB 18 (2004) requires cities and counties to consult with California Native American Tribes during the local planning process for the purpose of protecting Traditional Tribal Cultural Places. OPR's 2005 "Supplemental State General Plan Guidelines" provides advice and requirements for SB 18.
- **Flood Management**: Several laws were created in 2007 to strengthen the link between land use and flood management. The laws establish a comprehensive approach to improving flood management at the State and local levels. DWR's "Implementing California Flood Legislation into Local Land Use Planning: A Handbook for Local Communities" document outlines the 2007 California flood risk management legislation affecting cities' and counties' responsibilities related to local planning requirements such as general plans, zoning ordinances, development agreements, tentative maps, and other actions.

Compact and Sustainable Development

Need for Compact and Sustainable Development

Changes in the State's demographics and economy, policies, and investments are guiding local land use decisions toward a more sustainable pattern. This change in land use direction creates new opportunities for land use planners and water managers to collaborate. Population growth projections indicate there may be as many as 50 million people in California by 2050, an increase from over 37 million at the 2010 Census. Land use patterns are changing in many

California regions from a post-World War II supply of single-family homes in suburban, auto-dependent locations, to mixed-used development that is generally urban-centered and transit-dependent. In the past, local government and private sector decisions on the placement of offices, industrial sites, and retail centers were driven by a combination of workforce availability, and State tax policy reinforced this traditional pattern of development. Private and public investments more commonly supported the traditional pattern of development, which often encouraged the conversion of agricultural and open space lands to developed uses. However, more and more housing consumers, including empty-nesters and young professionals, are choosing to live in more compact areas, closer to their workplaces or services/amenities, and in areas which are less reliant upon new infrastructure development and services.

Local policies, land use plans, and projects are emerging throughout California that reflect these compact and sustainable concepts. Compact sustainable development offers opportunities for land use planners and water managers to collaborate, and help achieve the state target of 20% reduction in urban per capita water use by 2020 (Water Conservation Act of 2009).

Reduced Water Usage

Traditional suburban-style development landscaped with non-indigenous plants creates high water demand for landscaping. As urban development occurs in hotter regions of the state, this pattern of land use and landscaping is projected to increase water use to a higher amount of residential water demand. More compact mixed-use urban development reduces landscaping-related water demand by minimizing front and back yards and their associated landscape water demands (See Urban Water Use Efficiency RMS.)

The U.S. Environmental Protection Agency (U.S. EPA) recognizes that traditional land use patterns consume more water and increase surface runoff, relative to more compact and sustainable development. In *Growing toward More Efficient Water Use: Linking Development, Infrastructure, and Drinking Water Policies*, the U.S. EPA writes, "Applying smart growth principles can significantly reduce the cost of water provided by communities and the quantity of water demanded by their residents. More compact development allows for shorter transmission systems, making them more efficient to operate and less susceptible to water loss through leakage. Encouraging compact neighborhood design on smaller lots reduces water demand for landscaping. Directing development to areas served by existing infrastructure and maintaining that infrastructure can make systems more efficient" (U.S. EPA).

Opportunities for Improved Watershed Management

Watershed management is a broad-based method used by planners for resolving a water issues by linking land use and water resources within a drainage basin (see the Watershed Management RMS). Compact sustainable development can result in improved watershed management, particularly in reducing impervious surfaces. Conversely, land use practices on small portions of a watershed can still have significant consequences. For example, impervious surfaces such as roads, buildings, and parking lots result in more rapid and larger amounts of surface water runoff. This change in runoff can alter streamflow and watershed hydrology, reduce groundwater recharge, increase stream sedimentation, and increase the need for infrastructure to control storm runoff. Collaboration between water managers and planners can identify mutually beneficial opportunities to integrate ecosystem functions and low impact development practices as part of

rural and urban development.

Reducing Flood Impacts

Flooding is a natural process which contributes to replenishing soils through sedimentation and recharging groundwater (among many other benefits). When urban development is located within floodplains, the floodplain functions can be diminished or eliminated, which can place residents and structures at greater risk. By focusing development in established urban areas and avoiding more development in floodplains, this risk can be reduced, protecting critical infrastructure and easing the burden on flood managers. Collaboration between land use planners and flood managers has the potential to produce the co-benefits of reducing flood risk to new developments and creating new developments that help to capture water that would otherwise contribute to flooding in other areas.

Several tools are available to planners and water managers to coordinate water quality and flood protection (see Box 24-3 Leadership in Energy Environmental Design—LEED). For example, by utilizing compact urban development approaches, costs of expensive flood control structures are avoided. In addition, the use of surface and natural water courses and floodplains for storm water and floodwater limits pollution runoff, as the vegetated water courses and floodplains treat turban runoff. The U.S. Green Building Council's Leadership in Energy and Environmental Design Program (LEED) has a Water Efficiency category to "encourage smarter use of water, inside and out" (USGBC). Other advantages of these techniques are more fully described in related resource management strategies in Volume 3.

Supporting Low Impact Development (LID)

Discouraging traditional large-lot urban development in favor of more mixed-use projects that place jobs, schools, shopping, and other services close to housing has several benefits including water use efficiency. Using low impact development (LID) design can mitigate the potential effects of the increased impermeable surfaces associated with compact development projects. Mixed-use development reduces vehicle mile traveled (VMT) by making walking an option to driving. A reduction in VMT will have a corresponding decrease of GHG emissions, as well as overall energy use related to fossil fuels.

State Policies Encouraging Compact Sustainable Development

State policies generally support compact sustainable development, including higher density and mixed-use development. Mixed-use development combines residential, commercial, and retail services and job centers where appropriate, and can create more efficient patterns of land use. Public and private investment and financing are shaping land development in some of the most densely populated regions of the state. For example, the Bay Area, Los Angeles, Sacramento, San Diego, regions are making headway to grow more compactly, provide jobs closer to housing, and offer transit to connect people with community resources and centers of employment.

Key State Legislation

AB 857 (2002) establishes three State planning priorities and requires that all State strategic plans and capital improvement plans—including the California Water Plan—be consistent with them. These priorities, briefly stated, are to promote infill development and equity, protect environmental and agricultural resources, and encourage efficient development patterns.

AB 857 also requires the State's EGPR (prepared by OPR) to be consistent with these planning priorities. The EGPR is intended to provide a 20- to 30-year overview of state growth and development as well as articulate the governor's environmental goals and policies including, but not limited to, land use, population growth and distribution, development, conservation of natural resources, and air and water quality. The EGPR serves as the basis for judgments about major State investments and capital projects, including the allocation of State resources through the budget and appropriations process.

AB 32 (2006), Global Warming Solutions Act, establishes a target to reduce statewide carbon emissions to 1990 levels by 2020. ARB is responsible for developing a comprehensive program of regulatory and market mechanisms to achieve quantifiable, cost-effective reductions of GHG emissions in accordance with the statutory target. ARB's Climate Change Scoping Plan identifies the framework for implementing AB 32 and recommends modification of development patterns as a means of achieving the State's emissions reduction goal. SB 375 is the primary mechanism for implementation of the Scoping Plan and target reductions.

SB 375 (2008), which builds on AB 32, helps reduce GHG emissions by linking transportation and land use planning to reduce vehicle miles traveled. SB 375 provides emission-reduction targets around which regions can integrate planning activities and provides incentives for local governments and developers to support new sustainable growth patterns. The legislation directed ARB to develop regional GHG emissions reduction targets to be achieved from the automobile and light truck sectors for 2020 and 2035.

The 18 MPOs responsible for preparing Regional Transportation Plans (RTPs) are required to develop a Sustainable Communities Strategy (SCS) to achieve their regional GHG reduction targets, and to base Regional Transportation Plans and Regional Housing Needs Assessments (RHNAs) on the SCS. Local governments must amend their General Plan Housing Elements to be consistent with the RHNA for their region within 18 months of SCS adoption. SB 375 also provides new CEQA provisions for projects consistent with adopted SCSs.

SB 375 does not require SCSs to address water issues specifically. However, to achieve regional GHG reduction targets, SCSs can call for more compact sustainable development that can have water supply, water quality, and flood management benefits. For up-to-date information on SB 375, please visit ARB's website: http://www.arb.ca.gov/cc/sb375/sb375.htm

SB 732 (2008) provides a statutory framework to implement new programs under Proposition 84, the \$5.4 billion initiative voters passed in 2006 for safe drinking water, water quality and supply, flood control, natural resource protection, and park improvements. The bill also establishes the SGC which, as noted previously, is tasked with coordination of programs to improve air and water quality and natural resource protection, increase the availability of

affordable housing, improve transportation, meet the goals of AB 32, encourage sustainable land use planning, and revitalize urban community centers in a sustainable manner.

SB 226 (2011) Exempts certain rooftop solar projects from CEQA, and also creates a new streamlining tool for infill projects that meet specified criteria and satisfy a set of performance standards. OPR developed guidelines and performance standards for this new streamlined process for infill projects.

SB 244 (2011) requires local agencies to plan for disadvantaged unincorporated communities through the Local Agency Formation Commission (LAFCO) planning process and General Plan updates. SB 244 requires that on or before the next adoption of its housing element, a city or county must review and update the land use element of its general plan to include an analysis of the presence of island, fringe, or legacy unincorporated communities, as well as water, wastewater, stormwater drainage, and structural fire protection deficiencies in those communities and financially feasible ways to extend those services. SB 244 offers an opportunity for local governments to plan for the provision of infrastructure in unincorporated communities. To do this effectively and to produce sustainable solutions will require cooperation and collaboration between LAFCOs, the local governments and the local water and wastewater service providers. These planning efforts will need to address the complex challenges of providing infrastructure to existing communities without promoting sprawl.

AB 900 (2011) the "Jobs and Economic Improvement through Environmental Leadership Act" requires the Governor to establish procedures for projects, including infill projects, to apply for streamlined CEQA review. The bill sets up specific criteria which must be met by large projects to be eligible for streamlined CEQA review. The Governor's Office created guidelines for this bill which are available on the OPR web-site at www.opr.ca.gov.

SB 1087 (2005): This statute requires local governments to provide a copy of the adopted housing element to water and sewer providers. In addition, water and sewer providers must grant priority for service allocations to proposed developments that include housing units with affordable to lower-income households.

Regional Blueprint Planning Grants

Originally established by the California Legislature as a two-year program, the California Regional Blueprint Planning Program is administered by Caltrans and OPR (See Box 24-4 California Regional Blueprint Planning Program Goals). The Regional Blueprint Planning Program is a voluntary, competitive grant program for MPOs and their COGs and rural Regional Transportation Planning Authorities (RTPAs) to conduct comprehensive scenario planning that results in informed consent by regional leaders, local governments and stakeholders to a preferred growth scenario —or "blueprint"—to achieve certain objectives for a 20-year (or longer) planning horizon. Through the blueprint planning process, regions throughout California develop preferred land use planning and transportation scenarios that encourage compact sustainable development and also meet GHG emissions reduction targets. In some regions, blueprint plans have served as the starting point for development of Sustainable Communities Strategies under SB 375.

Nearly twenty-two million dollars in federal regional transportation planning funds have been awarded by Caltrans since the program was initiated in 2005. For fiscal year 2010-2011, over \$600,000 was granted to eight rural RTPAs to support transportation planning activities across rural California. Since the genesis of the Blueprint Program, there have been a total of seventeen Metropolitan Planning Organizations (MPOs) and fifteen RTPAs who have participated in the grant program and have enhanced or initiated a blueprint in their regions. The blueprints may provide helpful information to water managers so that they may anticipate patterns of future growth. In addition, the patterns of future infrastructure development may provide opportunities for integration and cost savings if infrastructure is planned and constructed simultaneously instead of serially. For the most up-to-date information on this program, please visit: http://calblueprint.dot.ca.gov/.

Sustainable Rural Land Use and Water

The Challenge of Sustainable Rural Land Use

Water management strategies can affect the sustainability of rural land use in several ways. For example, agricultural-urban water transfers through "third party effects" can potentially impact the sustainability of agriculture and agriculture-dependent small towns in rural areas, if land fallowing is involved (Hanak 2003). Similarly, large-scale restoration, flood management, and mitigation projects may be proposed on agricultural lands, again potentially affecting the sustainability of agriculture and agriculture-dependent small towns. CEQA documents prepared for water transfers and other water projects offer the opportunity to analyze and mitigate these impacts on rural areas.

There are several previous water management and land use decisions that have adversely affected disadvantaged communities in some rural areas. These communities may lack safe and reliable drinking water supplies, safe wastewater systems and/or be subject to flood hazards. Comprehensive and integrated land use and water management planning offers the opportunity to address these problems in the future.

Key Agricultural Land Preservation Programs

The Agricultural Land Stewardship RMS provides a detailed description of numerous federal, State, and local laws and programs intended to preserve agricultural lands. Some of the most important programs are summarized below:

The Williamson Act (Gov. Code 51200 et seq.) is California's oldest agricultural land preservation program, dating back to 1965. The Williamson Act offers agricultural landowners reduced property tax assessments if they contract with counties or cities to voluntarily restrict their land to agricultural and open space uses. In return, restricted parcels are assessed for property taxes at rates consistent with their actual uses, rather than potential market value (Revenue and Taxation Code 423 et seq.) The state has historically provided subventions to local governments to compensate for reduced property revenues associated with Williamson Act contracts, but these subventions have been eliminated from recent budgets.

CEQA also plays an important role in agricultural land preservation. Appendix G of the CEQA Guidelines sets forth an Initial Study checklist used to determine whether a project's impacts are

potentially significant. Under Appendix G, a project would have significant effects on agricultural resources if the project would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on DLRP maps, to non-agricultural use.
- Conflict with existing agricultural zoning or a Williamson Act contract.
- Involve other environmental changes that could result in the conversion of farmland to non-agricultural use.

Conservation easements are another important tool for agricultural land and open space preservation. A statutory conservation easement is a recorded deed restriction voluntarily executed by a landowner with the purpose of retaining land predominantly in its natural, agricultural, or open space condition (Civil Code 815.1). Funding for conservation easements is provided by several programs, including the California Farmland Conservancy Program Act (PRC 10200 et seq.), the Open Space Easement Act (Gov. Code 510070 et seq.), and the Federal Farm and Ranch Lands Program (7 CFR Part 1491).

Coordinating Land Use, Water Resources Management, and Climate Change

There is growing recognition of the relationship between land use policies, water use, policies and the GHG emissions that cause climate change. As mentioned previously, AB 32, SCSs pursuant to SB 375, General Plans, Climate Action Plans, and CEQA are some of the primary methods s for regional and local governments to reduce GHG emissions related to land use and transportation planning. Collaboration on GHG issues between local governments and water providers, although not currently required by law, can provide opportunities for communities to meet their GHG reduction targets more quickly, and to ensure the longevity and sustainability of their community in the face of climate change. Coordinating Land Use and Water Supply

Local land use planning and water supply planning are coordinated through a patchwork of existing State laws and policies. Regional water wholesalers such as Metropolitan Water District and San Diego County Water Authority base their water supply plans on regional growth projections developed by regional planning agencies. Information sharing is a good first step. However, more reliable water supplies can be achieved by enhanced coordination with land use planners and water managers. The effectiveness of existing programs and regulations in steering development toward areas with existing reliable water supplies, and away from areas where new water supplies must be developed, has not been comprehensively assessed.

Increased coordination, particularly at a regional level, such as what occurred within the SANDAG region in 2003-2004 in conjunction with the San Diego County Water Authority (SDCWA), demonstrates the advantages and benefits of proactive growth management planning and water supply planning to support projected long-term regional population growth. SB 610 and SB 221 (2001) are intended to improve the coordination between land use planning and development and available long-term water supplies. These laws require assessment and verification, respectively, of water supply reliability prior to approval of specified large land use projects. SB 610 applies during the CEQA process, and SB 221 applies to subdivision approvals.

Both laws require a demonstration of sufficient reliable 20-year water supplies to serve both the proposed project and other water users relying on the same water supplies, during normal, single dry, and multiple dry years. They require the water agencies responsible for water resource planning to work with the local land use agencies that often have little control over water supplies.

Urban Water Management Plans (UWMPs), as established by the Urban Water Management Planning Act, must be prepared by large water purveyors (3,000 acre-feet/year or 3,000 customers), must evaluate water supplies and demands over a 20-year period, and must be updated every five years. UWMPs are also required to plan for a 20% reduction in per capita water use by 2020. These plans can provide the basis on which the justifications for available water supply are made when doing SB 610 and SB 220 assessments.

Other State laws and policies play a more indirect role in coordinating land use and water supply planning. The OPR General Plan Guidelines encourage local governments to plan at a watershed level for better regional self-sufficiency and to consider adopting an optional water element in General Plans to address water supply and other water-related impacts of land use policies.

In 2002, California voters approved Proposition 50, the Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002. It authorizes the Legislature to appropriate \$500 million for IRWM projects. The intent of the IRWM Grant Program is to encourage integrated regional strategies for management of water resources and to provide funding for projects that protect communities from drought, protect and improve water quality, and improve local water security by reducing dependence on imported water. Proposition 84 allocated \$1 billion for IRWMPs. Subsequent legislation altered the IRWMP requirements. IRWMPs typically include growth forecasts, and opportunities exist for increased collaboration between land use planners and IRWMP preparers.

Coordinating Land Use and Flood Management

The potential for flooding is a significant risk for many localities in California. Flood events can cause substantial economic, social, and environmental damage. In addition, many flood management practices can be costly and have considerable effects on the environment. One of the most effective ways to reduce the vulnerability to potential flooding is through careful land use planning that is fully informed by and reflective of applicable flood information and flood management practices.

Several State laws were enacted in 2007 to improve public safety by coordinating flood management and land development within floodplains, consistent with the approach in SB 221 and SB 610 to coordinate the actions of water supply agencies and local land use authorities. In order to assist local cities, counties, and agencies in complying with the provisions of the 2007 flood legislation related to local responsibility, DWR and OPR prepared a "Handbook for Local Communities" that identifies new code requirements, notes additional factors and actions that jurisdictions should consider, highlights the schedule for compliance, and directs readers to where they can obtain more information and assistance (DWR).

Key State Legislation

SB 5 (2008) Flood Management

SB 5 requires the Department of Water Resources (DWR) and the Central Valley Flood Protection Board to prepare and adopt a Central Valley Flood Protection Plan (CVFPP) by 2012. The bill also requires cities and counties within the valley to amend their General Plans and zoning ordinances within a specified time frame following adoption of the CVFPP. By 2015 cities or counties in the valley are prohibited from entering into a development agreement, approving any permit, entitlement, or subdivision map unless the city or county makes one of the certain findings, including an urban level of flood protection. SB 5 defines "urban level of flood protection" as the level of protection necessary to withstand flooding that has a 1-in-200 chance of occurring in any given year. The Sacramento-San Joaquin Valley includes the area subject to flooding by the Sacramento or San Joaquin rivers or their tributaries.

AB 5 (2007) Flood Management

AB 5 includes technical clean up amendments to bills addressing flood legislation.

AB 156 (2007) Flood Control

AB 156 provides DWR and the Central Valley Flood Protection Board with specific authorizations that would enhance information regarding the status of flood protection in the Central Valley. The bill specifically directs DWR to map areas at risk of flooding, prepare a status report on the Central Valley's State Plan of Flood Control, identify levee flood protection zones, and notify property owners in levee flood protection zones of flood risk and flood insurance. AB 156 also requires DWR to specify how a State flood project facility needs to be fixed (including a cost estimate) if DWR determines that the facility is not being maintained adequately or the local agency responsible for maintenance requests should be relieved of its responsibility. Components of this bill apply statewide.

AB 70 (2007) Flood Liability

AB 70 provides that a city or county may be responsible for its reasonable share of property damage caused by a flood, if that city or county has increased the State's exposure to liability for property damage by approving new development. It applies only to decisions made by local governments after January 1, 2008.

AB 162 (2007) General Plans

AB 162 was signed by the Governor on October 10, 2007. The bill requires the land use element of general plans to annually review areas covered by the general plan that are that are subject to flooding as identified by flood plain mapping prepared by the Federal Emergency Management Agency or the Department of Water Resources. The bill also requires, upon the next revision of the housing element, that the conservation element of the general plan identify rivers, creeks, streams, flood corridors, riparian habitat, and land that may accommodate floodwater for purposes of groundwater recharge and stormwater management.

Coordinating Land Use and Water Quality

Urban development and the paving of large areas of the landscape can have significant negative impacts on water resources. Although growth and land use change may be inevitable in many communities, the way in which growth takes place affects its impact on water quality. With careful planning and a commitment to protect streams, rivers, and groundwater, watershed-based land use practices can be implemented that balance the need for jobs, housing, and economic development with protection of the natural environment.

Sustainable planning should include appropriate groundwater and surface water protection measures. This may be implemented through the general plan and zoning development processes where certain activities are prohibited near sensitive areas, such as production wells, water bodies, and recharge areas. Likewise, improved coordination of flood management and land development within floodplains could provide public safety and ecosystem improvements. Development that takes place without such considerations, however, can lead to significant degradation of streams and groundwater, and water supply, due to pollution.

The location of urban development can affect water quality, which can result in changes to available water supply. An integrated water resource management approach on a watershed basis, such as IRWMPs approved by DWR, identifies the opportunities and constraints for the impacted land uses.

Many jurisdictions use LEED for Neighborhood Development as a measurement tool for sustainable development, extending the benefits of LEED beyond the building footprint into the neighborhoods and the watershed context. This LEED approach provides standards for sustainable site development, water quality, and efficiency. Consideration and mitigation of potential water quality impacts in both watershed and project-specific planning can decrease the risk of contamination of water supply sources (Box 24-5 LEED for Neighborhood Development).

Potential Benefits of Compact and Sustainable Development

Land use planning and management that promotes compact and sustainable development has at least five main benefits directly tied to the California Water Plan:

- Climate change: Reduces GHG emissions and improves adaptation to climate change impacts
- Water supply. Reduces municipal and industrial water demand through water use efficiency, recycling, capturing and reusing storm water, recharging and protecting groundwater, protecting ground and surface water from failed septic systems; and encourages growth in areas with sufficient reliable water supplies
- **Flood management:** Keeps people and structures out of flood hazard zones, reduces runoff volumes and intensity
- Water quality: Reduces runoff volumes and improves runoff water quality
- **Ecosystem Preservation:** Encourages ecosystem preservation by planning development in non-critical habitat areas

Compact development can result in numerous water- and energy-related benefits. Specifically, compact development can reduce landscaped areas and, therefore, reduce landscape-related water use. Although higher density development may actually increase impervious surfaces and increase traffic congestion in localized urban areas, it can reduce the total development footprint in the State and reduce urbanization impacts to farmlands, habitat, watershed functions, and groundwater recharge areas. In addition, LID approaches incorporated in the more dense development further reduce the impact of runoff and water pollution (see Box 24-6 LID Runoff Control Objectives and Urban Runoff Management RMS).

Compact, mixed-use development, can reduce water and energy demand, even with moderate increases in density. Providing water supply for urban uses consumes a significant amount of energy for capturing, storing, conveying, and treating water. Thus, efficient water use is also an energy conservation (and GHG emissions reduction) strategy. As a rule of thumb, landscaping irrigation accounts for almost half of residential water use. An increase in residential density from four units per acre to five units per acre reduces the landscaping area by 20 percent, which should cut water usage by roughly 10 percent. A smaller urban footprint reduces impervious surfaces. This generates less surface runoff and minimizes intrusion into watersheds and groundwater recharge areas, which receive the runoff. Total infrastructure costs can be reduced in areas of compact development.

Potential Costs of Compact Sustainable Development

Because land use planning includes a broad array of resources including water, energy, and soil, there are hidden costs and assets that are difficult to tease out for the "costs" associated with comprehensive planning. This section identifies benefits and costs related to compact sustainable development for urban and rural communities, as they relate to three primary categories: Comprehensive Land Use Planning, Infrastructure, and Ongoing Coordination. For more information in the costs and benefits of compact sustainable development, please refer Vision California: http://www.visioncalifornia.org/reports.php.

Comprehensive Land Use Planning

General Plan Updates

Local government has the primary responsibility for comprehensive and project-specific planning. State law requires each land use jurisdiction (cities and counties) to adopt a General Plan. The current cost for updating a General Plan can vary greatly depending on the size of the community and the degree of the updating required. Local governments will incur significant planning costs in preparing revised General Plans and associated EIRs that integrate water resources concerns, implement regional SCSs, and reduce GHG emissions.

Incorporating Regional Transportation with Sustainable Communities Strategies and Local General Plans

A Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS), developed by an MPO or other regional designee, is required under SB 375 as a part of the Regional Transportation Plan (RTP) development process. MPOs prepare land use allocations within the

RTP to achieve each region's GHG emissions reduction targets. SB 375 and SB 732 provide incentives to meet emissions reduction targets, and SB 732 authorizes funding for the planning and development of sustainable communities.

Transportation planning efforts which aim to achieve compact and sustainable urban development mentioned above are a major cost to regional and local governments. SB 375 will require regional planning agencies to incur increased planning costs to develop new land use allocations supporting RTPs. The new RTP EIRs will increase in cost and complexity. In addition to planning costs, there are much greater implementation costs for RTP implementation (see below).

Local Strategies for Greenhouse Gas Emissions Reduction

State agencies and others are developing cost estimates to implement energy and water supply, flood conservation strategies that will affect land use. ARB's 2008 adopted Scoping Plan puts climate change mitigation costs for everything from low-carbon fuel technologies to building improvement. Many of these measures are in developmental stages and the estimated costs, emission reductions, applicable technologies, and other factors will likely change as they move through the regulatory process.

In terms of local and regional governments, economic costs will result from "policies to reduce (GHG) emissions by changing how we grow and build our communities" (ARB). ARB estimates the cost to implement this land use strategy within the constraints noted above as well as part of a cap and trade program. The potential State, local, and private benefits for promoting higher density and more compact development may offset the costs of implementing this land use planning and management resource management strategy.

Infrastructure and Property Values

There are on-the-ground costs associated with developing more compact and sustainable land use patterns. Property values in outlying open space and agricultural areas may be reduced to the extent they reflect development potential that can no longer be realized; however, property values of urban infill sites would tend to increase. To achieve significant urban infill, there may be substantial costs associated with upgrading urban infrastructure needed to support higher density development, as discussed below (Box 24-7).

Water

Federal, State, and local governments (often water districts) prepare various water supply plans. The federal and State planning is in the larger context of state hydrology and operations. Local government must prepare the UWMP, and water districts likewise prepare plans, sometimes coordinating these local plans region-wide. State law (see Land Use Planning and Management in California section) provides for local land use jurisdictions to identify water supply sources. The cost of water supply planning can be high due to the technical nature of the data.

Although there may be significant new costs associated with changing the way local, regional, and State agencies plan urban areas, there are expected savings from avoided costs, especially in

terms of future energy and long-term maintenance of infrastructure and other life cycle costs. However, immediate costs are projected for increased planning, communication, coordination, and information sharing among land use agencies, water suppliers, and agencies which regulate water quality, and climate change benefits of compact development. To achieve development of urban infill, there may also be substantial costs associated with upgrading urban infrastructure needed to support higher density development (Box 24-7).

Transportation

Transportation planning efforts, which aim to achieve compact and sustainable development, are a major cost to regional and local governments. In addition to planning costs, there are implementation costs for capital projects, road, maintenance yards, bus stops, and intermodal stations. Maintenance and operations are often a separate budget cost, and most funding sources are restricted from being used for sustained operations. The three tiers of federal, State, and local transportation planning and transit programs are supported at various levels of funding. Federal funds support regional transportation, which must be aligned with State and regional programs and policies.

Implementation of compact and sustainable development will incur increased transit costs. Sustainable Communities Strategies may require increased investments in transit facilities, and reduced investments in highways, relative to past trends. However, federal, state and local funding programs may be constrained in their ability to shift highway investments to transit investments.

Ongoing Coordination

Coordination of land use and water policies at multiple levels is a primary challenge in meeting state and local water needs. Increased coordination will also be necessary among all levels of government to facilitate inter-agency planning, to develop reliable and complete data and information which can form the basis for consistent government decision-making, and to interpret and share data and information to optimize the relationship of land use planning and water resources planning. For example, California Government Code and the Water Code require local governments to determine whether there will be enough water to supply a proposed development project before it can be approved. For more information on the relationship between land use and water supply planning, please refer to Urban Land Institute's report on SB 375.

Coordination of Sustainable Communities Strategies with Water Plan Regional Reports and IRWMPs

SB 375 should result in more certainty to the development community as to where development should occur and the type of development that is encouraged. The path to the development approval process should also be easily comprehensible in order to create more certainty. Currently, there is minimal coordination between SCSs and regional water planning. Additional planning and coordination costs may be incurred by MPOs to incorporate water resources management issues and concerns into future SCSs. Similarly, additional planning and coordination costs may be incurred by DWR and IRWMP preparers to use SCS growth forecasts

as the demographic and land use basis for regional water planning.

Potential Benefits of Sustainable Rural Development

Sustainable rural development offers many of the water supply, flood management, water quality, infrastructure, and climate change benefits of compact sustainable urban development mentioned above. In addition, strong agricultural and rural communities can (SACOG 2011):

- Increase agritourism
- Provide opportunities for carbon sequestration
- Provide wildlife habitat on agricultural lands
- Provide fuels for biomass energy projects that reduce GHG emissions
- Provide local foods for restaurants, farmers' markets and consumers, again reducing GHG emissions

From a flood protection and water supply perspective, sustainable rural development also provides opportunities to avoid costly expansion of traditional flood and water management structures through rural floodplain management.

Potential Costs of Sustainable Rural Development

Sustainable rural development incurs many of the planning and infrastructure costs mentioned above. Smaller rural cities and counties have especially limited financial resources for land use planning and infrastructure improvement due to smaller tax bases.

In addition water and flood management agencies may incur substantial costs to mitigate the impacts of their projects on agricultural land and agriculture-dependent small towns. These costs may include not just direct land acquisition costs, but also financial assistance to compensate for reduced tax revenues.

Major Constraints

Disincentives for Change

Local governments have the authority to make most of the local land use decisions in California. Although many local governments are revising their land use plans and policies to promote compact and sustainable development, some local governments may not promote or implement compact and sustainable development patterns for many legitimate reasons. Their decisions might be guided by one or more of the following reasons:

- Landownership
- Community resistance to infill projects and/or higher density development

- Traditional and antiquated local zoning ordinances that, for instance, segregate retail uses from residential uses or require higher parking ratios
- The added cost to update General Plans, prepare General Plan EIRs, and revise zoning codes
- The cost and potential liability associated with pursuing infill projects, especially on brownfield sites
- CEQA mitigation strategies that may inadvertently encourage lower density development
- Environmental hazards
- Urban infrastructure limitations

Fiscal Policy and Constraints

California's development patterns as local governments seek to balance revenues and expenditures by way of land use decisions, including balancing commercial and residential land uses in their jurisdictions, creates a fiscal constraint. The passage of Propositions 13 and 218, which reduced the role of property-based taxation as a local government revenue source, and the decline of federal and State financing for funding of infrastructure, have forced many local governments to be increasingly focused on the potential fiscal effects of land use decisions.

Additional federal fiscal policies, such as low capital gains tax rates, make property ownership an attractive investment, adding to the urban development expansion in recent years. These fiscal policies combine to potentially encourage local governments to seek and approve development that increases sales tax revenue, such as regional retail and commercial uses.

Some local governments seek higher priced housing over moderately priced housing because housing development only produces property tax at a fixed rate, which is less than the rate of inflation for providing city-based services such as road repair, infrastructure maintenance, parks, libraries, fire protection, and public safety. Focusing on higher end housing has the potential to establish a higher tax base to support the provision of ongoing municipal services. Overall, simple economics dictates that counties and cities will, as a practical matter, favor development that generates higher property and sales tax.

Financially strapped cities and counties are more inclined to favor tax-generating land uses such as retail and commercial over housing. For residential projects, communities typically have adopted "development pays its way" policies to cover infrastructure improvements. Developers are assessed a variety of development impact fees to cover the cost of such services and amenities as roads, parks, water, public safety, and other social infrastructure costs. The net result of these fiscal constraints is that the short-term need for revenue generated by this type of land use is often pursued without budgeting for the long-term costs. As a result of these property tax policies, local communities often compete with one another for businesses that generate sales tax. Community needs for jobs and housing are often outweighed by the competition for revenue-driven development.

Regulation Improvement and Streamlining

The existing regulatory framework across federal, state, regional, and local levels contains some inherent conflicts and contradictory directives, such as designated infill priority development

areas conflicting with flood zones, environmental guidelines limiting proximity of housing to freeways, or school location and configuration guidelines that favor low density environments. Some state guidance can be considered separately from larger regional land use and transportation policies, which might confuse local jurisdictions on how to comply with multiple policy directions from the state.

Issues for Sustainable Rural Development

Landowner incentives for maintaining agricultural land in agricultural use includes the Williamson Act and conservation easements. However, state subventions to local governments for reduced property taxes associated with Williamson Act contracts have been eliminated, which may result in non-renewal of Williamson Act contracts over the long-term. Also, funding for conservation easements is threatened by both the state's economic downturn, as well as reduced federal and state discretionary spending in budgets.

Recommendations

Promote Cross-cutting Funding and Planning Programs

- 1. The State should **provide additional incentives to developers and local governments** to plan and build using more compact and sustainable development patterns. This could be done through further CEQA streamlining for infill development and associated infrastructure depending on SB 226's effectiveness, further reductions in brownfields liability for innocent land purchasers (http://www.epa.gov/swerosps/bf/laws/liability/index.html), prioritizing planning grants, and providing further incentives (financial and other) to encourage compact and sustainable development.
- 2. The State should **develop and promote performance-based planning with metrics**. Examples include establishing a baseline for each watershed for impervious surfaces, vehicle miles traveled per capita, comprehensive flood management using floodplain planning, and land coverage. These metrics should be the basis for evaluating projects that request discretionary State funding, grants, and other financial assistance.
- 3. Land use and water planning agencies local, regional and state should conduct **integrated review of long-range land use planning documents**, infrastructure master plans, and financing strategies to ensure adequate support for long-term growth, and compact and sustainable development.

Integrate Regional Water Management and Regional/Local Land Use Plans

- 4. Regional planning agencies could continue and expand their participation in the regional blueprint planning process.
- **5.** Regional planning agencies **should address water management issues** in their blueprint plans and SCSs.
- **6.** Local agency formation commissions (LAFCOs) could consider water management issues in the context of their principal purposes, which include: discouraging urban sprawl, preserving open space and prime agricultural lands, efficiently provide govern-

- ment services, and encouraging the orderly formation and development of local agencies based upon local conditions and circumstances (Government Code 56301).
- **7.** Local governments could coordinate with water planning agencies to promote integration of land use and water management planning. This could be done by:
 - Reviewing and submitting comments on the Urban Water Management Plans adopted by water agencies within their jurisdiction
 - Participating in the Integrated Regional Water Management Planning and Implementation Processes
 - Continuing to effectively implement SB 610 and SB 221, which require land use approvals to consider whether sufficient water supplies are available to serve new development
 - Engaging relevant water management agencies to participate in General Plan updates that address water issues
- 8. When conducting General Plan updates, local governments could address relevant water management issues, including water supply, water quality, and flood risk reduction. This can be done by adding water management policies to the General Plan elements currently required by statute, or by preparing an optional Water Element not required by statute. The discussion of water issues in General Plans should be informed by IRWMPs and Water Plan Regional Reports applicable to the city or county.
- 9. Local and regional water management and flood agencies could coordinate with local governments to promote integration of land use and water management planning. This could be done by:
 - Participating in the General Plan process in the communities they serve and submitting comments on General Plan updates
 - Including local agency representatives Regional Water Management Groups, which are the governing bodies for IRWMPs
 - Collaborating with local governments to identify opportunities to maximize water conservation, groundwater recharge, stormwater capture and other water management strategies that rely on local land use planning for effective implementation
- 10. Tribal communities would like to see local government extend the required consultation of SB 18 to include compatibility issues with local land use planning and water supply and quality. This consultation would provide California Native American Tribes an opportunity to participate in local land use decisions at an early planning stage for the purpose of protecting or mitigating land use impacts to watersheds and floodplains of which Tribes have an interest.
- 11. Local governments should **implement specific land use planning and regulatory measures to reduce flood risks**, as described in the Integrated Flood Management RMS recommendations.

Provide Funding, Incentives and Technical Assistance

- 12. Increased State funding and technical assistance should be provided for the following programs and policies that promote compact, sustainable development:
 - Development and implementation of regional blueprint plans
 - Development and implementation of SCSs

- General Plan updates that implement blueprint plans and SCSs, and address water issues
- General plan updates, zoning code updates, specific plans, and other land use controls that promote compact sustainable development in addition to provisions in blueprint plans and SCSs
- Coordinated state and local government programs that incentivize infill development. These are especially important since tax increment financing by redevelopment agencies is no longer available as a tool to incentivize infill development.
- General Plan updates and other local government programs that use land use policies to help adapt to climate change
- Local government adoption of green building codes with LID principles that include water conservation and reduction of impervious surfaces
- Continued use of the CEQA process to mitigate the significant impacts of new development on resources including, but not only, prime agricultural land, wildlife habitat, open space, floodplains, recharge areas, wetlands, and water supply
- 13. State grant and funding decisions should provide incentives for and give priority to projects that are consistent with:
 - Strategic Growth Council sustainability objectives
 - AB 857: state planning priorities that promote urban infill, and protect environmental and agricultural resources
 - Regional Sustainable Communities Strategies (SCS)
 - Integrated Regional Water Management Plans (IRWMPs)
 - Regional blueprint plans
 - Green building codes that incorporate LID principles and reduce impervious surfaces (especially near waterways) and design standards (such as LEED-ND and Cal GREEN)
- 14. State grant and funding decisions should recognize the unique challenges of promoting sustainable rural development.
- 15. Regional planning agencies should provide financial incentives and technical assistance to local governments to implement blueprint plans and SCSs in their communities.
- 16. The State should develop, make available, and provide technical assistance for a "land use tool" that allows planning and water resources agencies to evaluate the life cycle water resources infrastructure costs of conventional development patterns, as compared to compact and sustainable development patterns.

Enhance Research and Data Gathering

17. The State should provide funding, technical information, and best practices, and publicize accurate and relevant water resources information for use by local governments and developers. The State could serve as an information clearinghouse for regional water supply, water quality, flood management, and climate change vulnerability information that local governments can use in preparing General Plans. Such information would also provide comprehensive water resources information and policies to land use project applicants during pre-application meetings.

- 18. The State should encourage and support more scientific, engineering, planning, social, and economic research on the benefits and impacts of resource-efficient development patterns, develop an inventory of best practices by local governments and land management agencies, and provide a user friendly portal for information access.
- 19. The State should evaluate the effectiveness of the package of flood management laws that were enacted in 2007 (see Coordinating Land Use and Flood Management in this chapter) in coordinating land use and flood planning, and work to provide recommendations for changes to existing laws and their implementation as appropriate.
- 20. The State should evaluate the effectiveness of SB 610 and SB 221 in coordinating land use and water supply planning, and recommend improvements to these laws or their implementation as appropriate. The State should develop guidance on how SB 610 and SB 221 water supply assessments and verifications should address the effects of climate change and Delta export uncertainties on supply reliability.

Promote Interagency Coordination

- 21. The State should identify strategies, including performance metrics to improve communication, coordination, and information-sharing among local agencies, regional planning agencies, and local water agencies and watershed managers.
- 22. The State should promote improved coordination between local general plans and LAFCO policies on boundary changes to ensure adequate water supply with effective flood management.

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